## REMARKS

Upon approval of the undersigned's request for entry of the present amendment canceling the withdrawn claims 1–18 and 37–90, and adding new claims 91–110, claims 19–36 and 91–110 are pending. Previously examined claims 19–36 have been rejected under 35 USC 103(a) based variously upon Dillon Jr., et al. (DILLON) in combination with Bischel et al. (BISCHEL) and sometimes additionally Conner et al. (CONNER). These rejections of claims 19–36 is respectfully traversed and the undersigned requests reconsideration of the rejection in light of the following comments.

***DILLON***

Primarily, DILLON does not disclose a modulator and therefore the rejection's characterization of the reference is improper and therefore the rejection of the claims based upon this mischaracterization is also improper.

Dillon, in contrast to a modulator, teaches an isolator for telecommunications (e.g., infrared radiation) use, and perhaps other non-display applications as the cited radiation is outside the range of visible light. An isolator is a special purpose device that consistently and unvaryingly, for a radiation signal at a particular frequency, rejects components of that radiation signal that are reflected back to the source as the reflected component will interfere with the radiation signal source and degrade the quality of the radiation signal in the forward propagating direction. To do this, DILLON, like other isolators, provides for a mandatory, invariant 90 degree polarization difference orientation between the source radiation signal and the reflected signal. Because of subtleties explained in DILLON, this can sometimes be difficult to achieve in bi-refringent materials.

DILLON provides for a precise waveguide structure of a particular material designed for radiation at specified discrete wavelengths to consistently and constantly and without modulation change a polarization angle of radiation in the forward direction through

one specific value to end up at a known polarization angle for the exiting radiation as compared to a reference polarizer, when subjected to a known, constant magnetic field. Reflected radiation reentering the waveguide will also be rotated such that when it encounters the polarizer, it will b 90 degrees offset from the axis of the polarizer, and hence blocked and unable to affect the radiation source or other elements on the other side of this polarizer.

In addition to these differences of an architecture that must provide unvarying polarization angles, the DILLON reference does not teach, require, and/or use a control signal to affect a polarization property of the wave component. DILLON uses a constant magnetic field to produce a constant polarization change over the length of the waveguide. These differences propagate throughout the claims and result in many differences between the claims and the DILLON reference.

FIG. 6 of DILLON is a special arrangement for dual discrete simultaneous wavelengths and is separately treated in DILLON

Still further, DILLON cannot be varied as suggested by the rejection to produce a modulator as then the DILLON structure would no longer function as an isolator. Adding some amount of variability to the magnetic field prevents DILLON from functioning as an isolator and there is no suggestion/motivation to alter DILLON as suggested by the rejection to provide for a modulating function. Therefore the undersigned respectfully requests reconsideration and withdrawal of the rejections.

Claim 19: (Independent)

The rejection equates the recited control signal with the "signal" resulting in the electromagnetic coil embodiment of DILLON producing the magnetic field. However, claim 19 further recites that an intensity of the wave component is varied responsive to the control signal and there is nothing in the DILLON reference or the office action that

explains how DILLON provides this element. DILLON, in the case of an electromagnet, provides a constant "control signal" (to produce a constant magnetic field) and thus there can be no variation of the intensity as recited. Claims 20–36 are dependent from claim 19 and are therefore patentable for at least the reasons set forth above in the discussion of claim 19.

***BISCHEL***

Bischel teaches elements of an electro-optical (as opposed to a magneto-optical) display. The rejection asserts that BISCHEL is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to add the use of integrated eletro-optical modulators in a display method. The rejection concludes that: "Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of DILLON with the use of integrated electro-optical modulators of DILLON in a display method ... in order to take advantage of semiconductor diode light sources."

This characterization of BISCHEL and of the evidence to find reason, suggestion, or motivation to combine DILLON and BISCHEL is respectfully traversed and reconsideration is requested.

There are many reasons why combination of DILLON and BISCHEL is improper, and even if it were improper, would not produce the claimed invention.

DILLON deals with non-display wavelengths for communication (e.g., 1.3μm and 1.55 μm (see Col. 8, lines 15–30 for example)). This is expected since conventional magneto-optic materials begin to become strongly absorptive in the visible range, particularly as wavelengths approach blue frequencies and DILLON deals with communications.

BISCHEL, dealing with display technologies, uses visible light but not magneto-optic materials. One of the reasons that conventional magneto-optic materials are not used in a visible display device, particularly a multi-color device, is this absorption of the radiation by the material. It is unclear what components of BISCHEL are supposed to be substituted/added/modified in DILLON thus a more detailed discussion of the inappropriateness of a combination of DILLON and BISCHEL is not possible.

Further, as noted above, DILLON does not teach any modulation of the communication signal – modulation is typically performed at the signal source, with the DILLON device isolating this source from reflected signals. Since DILLON is not a modulator and does not describe, individually or collectively, a collection or set of isolators somehow functioning in an array to form a display, the addition of a display array with bright electro-optic elements does not suggest the use together. It is equally inappropriate to use the visible spectrum of BISCHEL in a communications system where the IR spectrum has the improved performance.

Still further, it has been shown that it is undesirable to use laser sources accept in special situations and control for display systems as damage to the eyes can result. This further argues against combination of BISCHEL into a display as claimed.

New claims 91–110 are based generally on claim 19–36 but more specifically and expressly highlight distinctions between DILLON/BISCHEL and the present invention, including a varying control signal, varying output intensity, and integration in the sense of a more intimate integration such as a time of manufacture of the waveguide structure(s). The limitations of these claims are supported by the specification as originally filed and do not contain any new matter.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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